

# PRELIMINARY ISSUE

**Work Order ID 64150**

Thursday, November 25, 2010 3:59:51 PM



Page 1

Item ID: D4298-020

Revision ID: PRELIM

Item Name: Knob

Start Date: 11/25/2010 Start Qty: 2.00

Accept



Setup Start



Stop



Required Date: 12/3/2010 Req'd Qty: 2.00



Cust Item ID:

Customer:



Reference:

Approvals:

Process Plan:



Date: 10/11/26

Tooling:

Date:

Run Start



Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D4298	PA1

100



Doosan

Memo

0.00

2 ✓

Doosan Lathe

✓ 10/12/07

110



QC2- Inspect parts off machine FAI/FAIB

0.00

QC

Memo

0.00

2 ✓

Quality Control

✓ 10/12/07

120



QC8- Inspect parts - second check

0.00 - inspectors to enter

QC

Memo

Dug - ozo

Quality Control

0.00  
S10/12/07 ✓

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

**Work Order ID 64150**

Thursday, November 25, 2010 3:59:51 PM

Page 2

Item ID: D4298-020

Revision ID: PRELIM

Item Name: Knob

Start Date: 11/25/2010 Start Qty: 2.00

Required Date: 12/3/2010 Req'd Qty: 2.00

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

130



HandFinish

Hand Finishing

Chemical Conversion Coat per QSI005 4.1

0.00

2 BK 10-12-7.

140



Powdercoat

Powder Coating

Black Sandtex(Ref:4.3.5.7) per QSI005 4.3

0.00

2 BL 10-12-9.

M 11/25/08  
 Memo 9:05  
 Start time:  
 Oven temp:  
 Finish time:  
 9:35

150



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

0.00

NIA  
 u

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

**Work Order ID 64150**

Thursday, November 25, 2010 3:59:51 PM



Page 3

Item ID: D4298-020

Revision ID: PRELIM

Item Name: Knob

Start Date: 11/25/2010 Start Qty: 2.00

Required Date: 12/3/2010 Req'd Qty: 2.00

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center ID

160



Packaging

Packaging

Operation  
DescriptionIdentify as per dwg & Stock Location: B ASet Up/  
Run Hours

0.00

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

170



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

0.00

POSITIVE RECALL  
 EFFECTIVE 10.11.29 AUTH AA  
 RELEASED \_\_\_\_\_ DATE \_\_\_\_\_



10/12/10  
2

2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes  No  DQA:  Date: 10/12/17

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
10/12/17	100	Upon assembly of -001, the -020 Knob diameter of 0.56 is too wide & interferes with A Rivet.  RC: 3 part design.	<input checked="" type="checkbox"/> QSI042	- A washer has been added to change the rivet & diameter has been revised to 0.50 for future production.  See Rev. D drawing : E-mail attached.	<input checked="" type="checkbox"/> N/A		<input checked="" type="checkbox"/> QSI042	<input checked="" type="checkbox"/> 10/12/17
10/12/17	100	Dwg Rev.D (ER4 drawing) states a 0.060" depth, needs to be 0.60".	<input checked="" type="checkbox"/> QSI042	- Advise ER4 & have Rev.D drawing corrected  Part is acceptable upon assembly & functions perfectly	<input checked="" type="checkbox"/> see e-mail attached.		<input checked="" type="checkbox"/> QSI042	<input checked="" type="checkbox"/> 10/12/17

NOTE: Date & initial all entries

**Picklist Print**

Page 1

Thursday, November 25, 2010 3:59:55 PM

Work Order ID: 64150



Parent Item: D4298-020



Parent Item Name: Knob

Start Date: 11/25/2010

Required Date: 11/3/2010

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP revA 10.11.25 new issue EC verified by:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6R0.750		Purchased	No			100	f	11.9648	0.08	0.168421			

6061-T6 Round Bar .750"

10/12/07

Location	Loc Qty	Loc Code
MAT	11.948	
115469	0.0027	
<del>115869</del>	11.9453	
MAT012	0.016842105	
112442	0.01684211	

115809

2nd.

1  
JULY 10.12.07

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

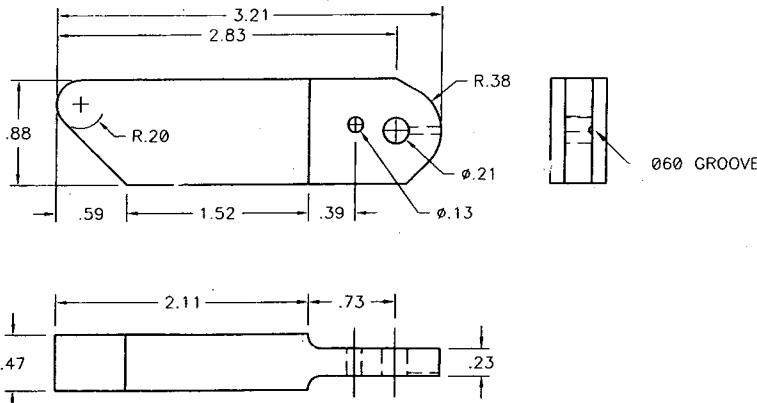
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

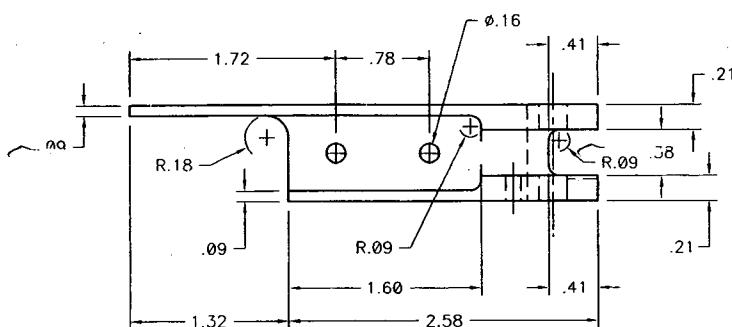
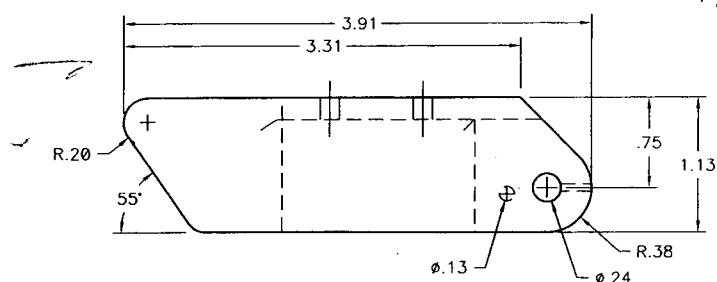
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



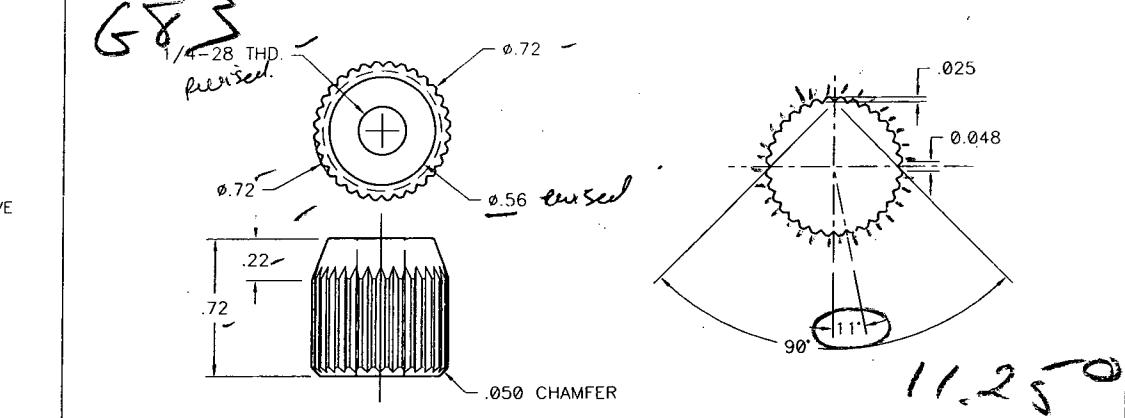


-018 MACHINED INNER



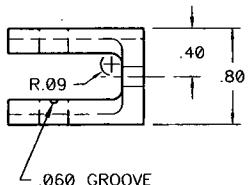
-019 MACHINED OUTER

SHOP COPY  
 RETURN TO  
 ENGINEERING  
 UNCONTROLLED COPY  
 SUBJECT TO AMENDMENT  
 WITHOUT NOTICE  
 WORK ORDER  
 NO. ~~644150~~  
 BL 10-11-26

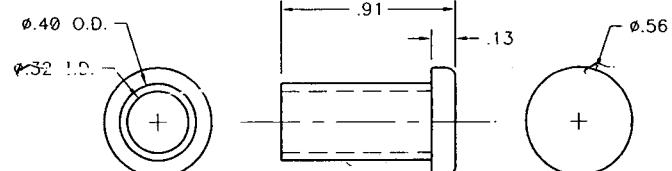


-020 KNOB

32.723



-021 MACHINED BOLT



-022 PIN TOPPER

**PROPRIETARY RIGHTS NOTICE**

THESE DATA ARE PROPRIETARY TO ERA HELICOPTERS LLC.  
DISCLOSURE, REPRODUCTION, OR USE OF THESE DATA  
FOR ANY PURPOSE IS FORBIDDEN WITHOUT WRITTEN  
AUTHORIZATION FROM ERA HELICOPTERS LLC. THE FORE-  
GOING DOES NOT APPLY TO VENDOR PARTS.

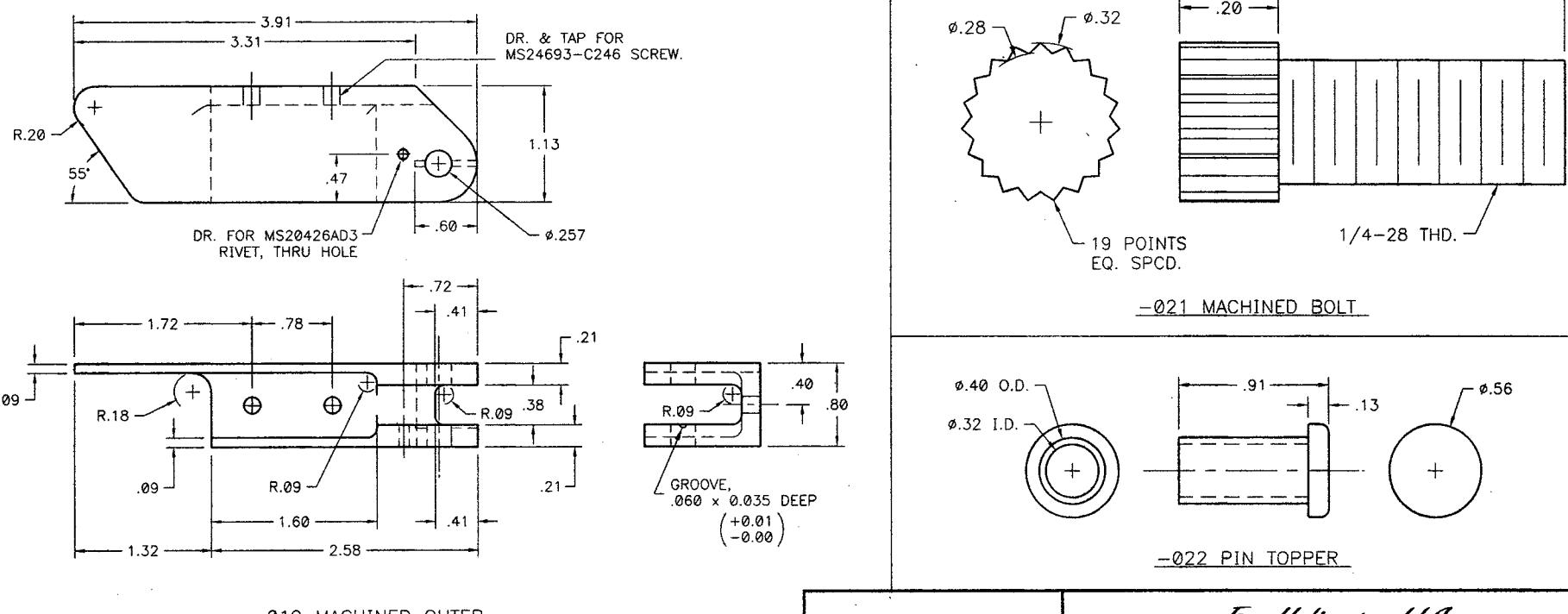
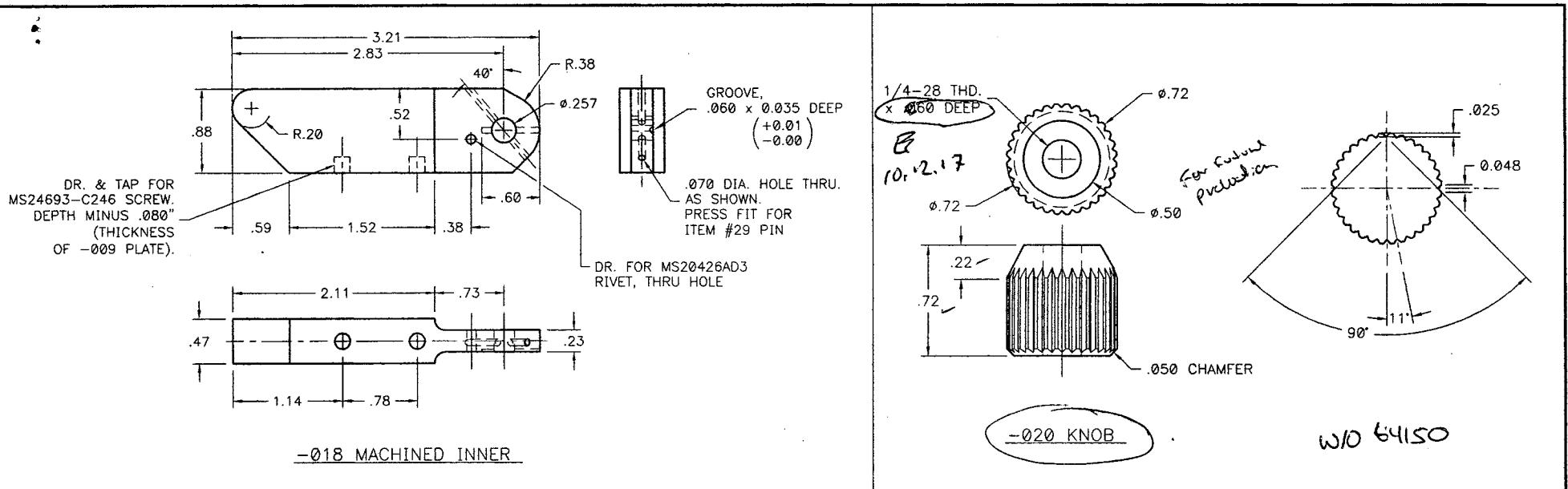
Era Helicopters LLC

TITLE: SINGLE PILOT VFR  
CHART HOLDER, AW139

SIZE: C

DWG. NO.: 13939-1-290  
SHT 9 OF 10

REV. A

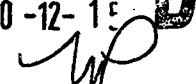


**PROPRIETARY RIGHTS NOTICE**  
THESE DATA ARE PROPRIETARY TO ERA HELICOPTERS LLC.  
DISCLOSURE, REPRODUCTION, OR USE OF THESE DATA  
FOR ANY PURPOSE IS FORBIDDEN WITHOUT WRITTEN  
AUTHORIZATION FROM ERA HELICOPTERS LLC. THE FORE-  
GOING DOES NOT APPLY TO VENDOR PARTS.

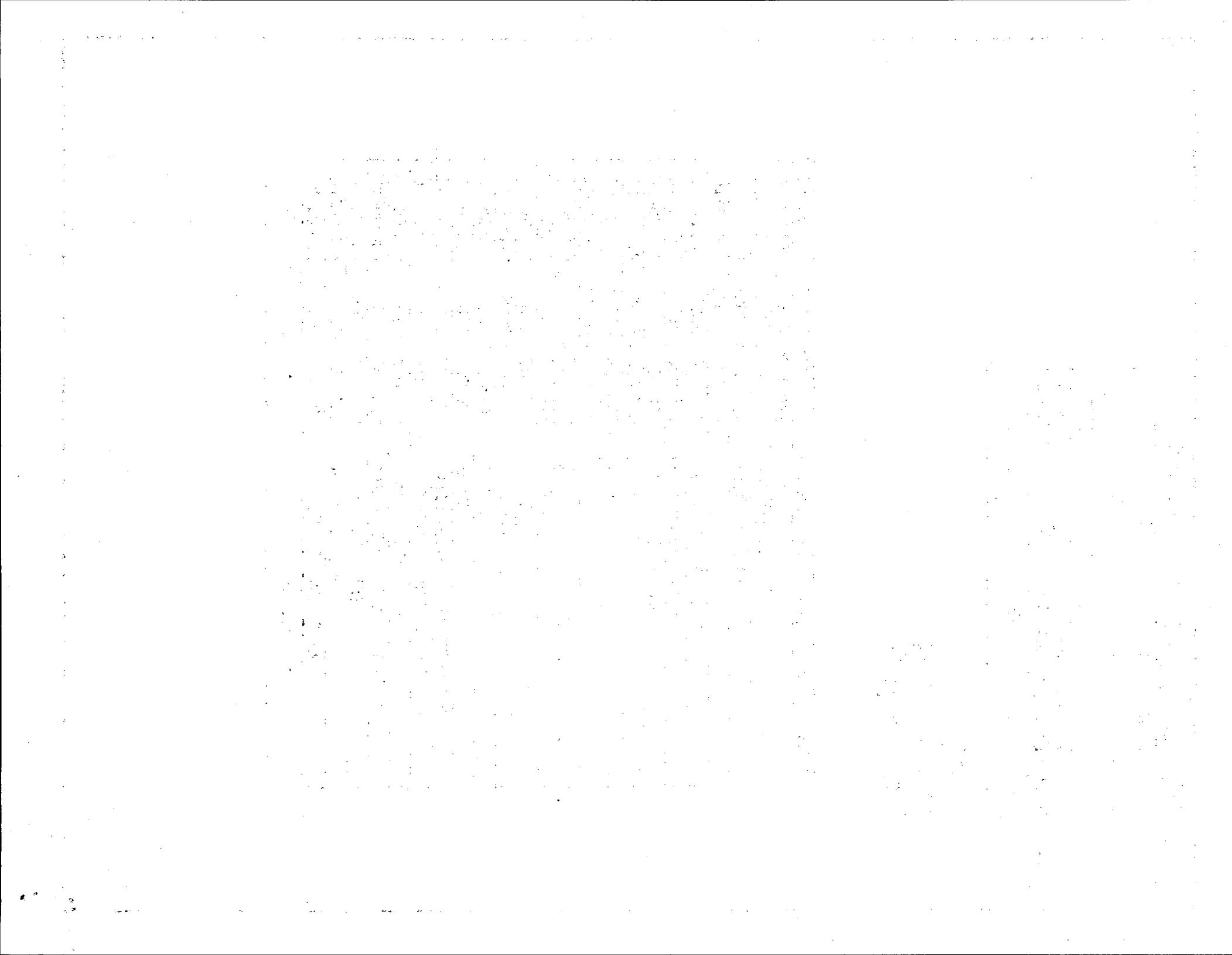
*Era Helicopters LLC*

TITLE	SINGLE PILOT VFR CHART HOLDER, AW139	SIZE	DWG. NO.
C	13939-1-290	SHT 9 OF 10	REV. D

DART P/N	ERA P/N	Description
D4298-001	13939-1-290-001	CHART HOLDER ASSY
D4298-002	13939-1-290-002	PLATE SUB-ASSY
D4298-003	13939-1-290-003	PLATE SUB-ASSY
D4298-004	13939-1-290-004	FIXING BRACKET SUB-ASSY
D4298-005	13939-1-290-005	HINGE SUB-ASSY
D4298-006	13939-1-290-006	MACHINED INNER SUB-ASSY
D4298-007	13939-1-290-007	MACHINED OUTER SUB-ASSY
D4298-008	13939-1-290-008	PLATE
D4298-009	13939-1-290-009	PLATE
D4298-010	13939-1-290-010	FIXING BRACKET
D4298-011	13939-1-290-011	HINGE
D4298-012	13939-1-290-012	HINGE
D4298-013	13939-1-290-013	HINGE
D4298-014	13939-1-290-014	HINGE
D4298-015	13939-1-290-015	CLIP ANGLE
D4298-016	13939-1-290-016	CLIP STOP
D4298-017	13939-1-290-017	CLIP STOP MOUNT
D4298-018	13939-1-290-018	MACHINED INNER
D4298-019	13939-1-290-019	MACHINED OUTER
D4298-020	13939-1-290-020	KNOB
D4298-021	13939-1-290-021	MACHINE BOLT
D4298-022	13939-1-290-022	PIN TOPPER
D4298-023	13939-1-290-023	PIN
D4298-024	13939-1-290-024	SERRATED ADJUSTMENT WASHER

RELEASED  
2010-12-15  


A	NEW ISSUE		SC	10.12.15	
REV.	DESCRIPTION		BY	DATE	
DESIGN	SC	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA			
DRAWN	SC				
CHECKED	<i>JW</i>	DRAWING NO.	REV. A SHEET 1 OF 1		
MFG. APPR.	<i>EJ</i>	D4298			
APPROVED	<i>JW</i>	TITLE	SCALE NTS		
DE APPR.	<i>-</i>	CHART HOLDER (AW 139)			
DATE	10.12.15		COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.		



## Eric Charbonneau

---

**From:** Domingue, Elvin [edomingue@erahelicopters.com]  
**Sent:** November 24, 2010 1:48 PM  
**To:** Nelson, David; echarbonneau@dartaero.com'  
**Subject:** Re: DXF files (AW139 Chart Holder)

Yes that would be perfect!

---

Elvin Domingue  
Sent from my BlackBerry Wireless Device

---

**From:** Nelson, David  
**To:** 'Eric Charbonneau' <[echarbonneau@dartaero.com](mailto:echarbonneau@dartaero.com)>  
**Cc:** Domingue, Elvin  
**Sent:** Wed Nov 24 12:37:04 2010  
**Subject:** RE: DXF files (AW139 Chart Holder)  
Eric,

That sounds okay to me, but I'll fwd to Elvin Domingue on this.

Elvin, does this finish sound okay for the AW139 Chart Holder?

Thanks,  
David

---

**From:** Eric Charbonneau [<mailto:echarbonneau@dartaero.com>]  
**Sent:** Wednesday, November 24, 2010 12:10 PM  
**To:** Nelson, David  
**Subject:** RE: DXF files

Thanks David, at the same time would you know what kind of finish is required on the assembly, most of our interior parts we alodine and then powder coat black sandtex, this black is satin and prevent any glare. If this is what you would like please let me know, or fwd this to whoever can help me out with this.

Thank,  
Eric

---

**From:** Nelson, David [<mailto:dnelson@erahelicopters.com>]  
**Sent:** November 24, 2010 11:53 AM  
**To:** 'Eric Charbonneau'  
**Subject:** RE: DXF files

Here you go.

Thanks,  
David

---

**From:** Eric Charbonneau [<mailto:echarbonneau@dartaero.com>]  
**Sent:** Wednesday, November 24, 2010 10:11 AM